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# **Representation of a sustainable city: the example on practice of urban planning in the rivers and estuaries borders in the City of Recife**

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## **Abstract**

In the search for the sustainable city, the relation between protection of waters and the occupation of its borders gain privileged space in the urban planning. However, speech and practice do not always walk together. In the city of Recife, Northeast of Brazil, the new public lines on the use of the borders of the rivers is a good example of the danger of the vulgarization of the term of sustainable development. The project of eradication of the precarious habitations on water considers the withdrawal of the families who inhabit wooden houses on stilts in these places and the restoration of the marginal zones. The local authorities legitimize such project alleging to act by the means of sustainable development; moreover, the real environmental impact in the area is rarely taken into consideration. Although the eminent risk of flood, it is from the rivers and swamps that this population takes off its sustenance.

## **Keywords**

Urban water; resources, risk assessment, politics, sustainable development

## **INTRODUCTION**

It is not new to say, after stated at the United Nations conference meeting about the environment of Rio de Janeiro 1992 (UNCED), that the implementation of a sustainable development in large cities has been introduced as one of the main commitments on their municipal managements. "The idea of sustainability recalls the logic of practice, where practical effects viewed as desirable are made to happen. [...] When applied to urban space, the idea of sustainability has generated different representations and perspectives for managing cities" (Acsehrad, 1999). An example of it in Recife is the incorporation of municipal Agendas 21, which holds as one of its main principle the line: "think globally, act locally" with leaflets and methodological guides that assist the town planners to put sustainable development into practice.

In spite of the fact that the rhetoric on those urban projects is in accordance with the speech of the urban sustainability - following the three dimensions: social, economic and the environmental – does it in *practice, really* represent a true change on the way of conceiving urban projects? Or may it only be some kind of "*greenwashing*", or even the vulgarisation of the term in itself, turning it banal and meaningless?

In the City of Recife, Northeast of Brazil, after the 90's, urban projects have begun to integrate the perspective of a sustainable town development. Before it, urban planning was based on the preservation of the cultural heritage. This idea of the conservation of the city heritage for future generations was the first avatar on the urban sustainability. But, recently the city have begun integrate the environment perspective. Recife is conquering the spaces along the waters as the borders, rivers and humid zones. Although they have been situated in the common rivers'

estuary, the borders of water were until then ignored and had little integration with the city's activities.

In this search for the implementation of the sustainable city, urban rivers and wetlands begin to have the meaning of natural patrimony to be preserved. "Water, it's not only considers like an element of the environment, but as an essential component of the ecosystems to be protected, restores and emphasize" (Gauthier, Lepage, 2005). By the simple adequacy of the waters' flow with urban necessities (rectification of banks, canalization of the streams, draining of the swampy zones, waterproofing of the borders), these projects try to integrate water and to respect its natural flow.

This paper intends to analyze the representation of a sustainable development in the recent urban planning of the City of Recife and the vulgarization of the green speech. In this way, we will verify a example of occupation of borders on superficial waters.

## **PROBLEMS AND CONTEXT**

For a better understanding of the case of Recife, it is necessary to highlight some social and natural characteristics of the place. Recife is situated in the tropical zone of Brazil, on the sea cost, common estuary of three river basins. This forms a complex fluvial system composed by five rivers and 66 canals. In low lands of the estuaries, there are the mangroves, that are swampy areas of transition between the river and the sea. The mangrove is a rich ecosystem, where we can find you a great variety of clams, fishes, crabs and birds. It is an important area for the ecosystem balance. Besides being a zone of reproduction of innumerable species, the zone is fundamental for the purification of the water and the absorption of rain waters, thus preventing floods and cyclic inundations. However, the mangrove is threatened by the water pollution and the constant embankment due to the urban growth towards the flooded zones.

It is in these muddy areas of the rivers banks where the poorest population installs their habitation. The sprouting of slum in these places comes to the fact that these uncertain zones between water and land do not possess commercial value. There are the last areas vacated by the city center, where this population can find work. With the highest GIP (2,04 to euros/per capita) of a metropolitan region of approximately 3,5 million inhabitants, Recife exerts a strong demographic attraction in the region. The flow of immigrants has two main origins: they run away from drought of the arid countryside or they come from other cities near the littoral to try their luck in the capital. Arriving in Recife, the majority find themselves without work. Thus they have no choice but improvise precarious shacks in the most devaluated areas. The slum shacks on the borders of the river are called *palafitas*, wooden houses on stilt.

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Figure 1: Localization plan

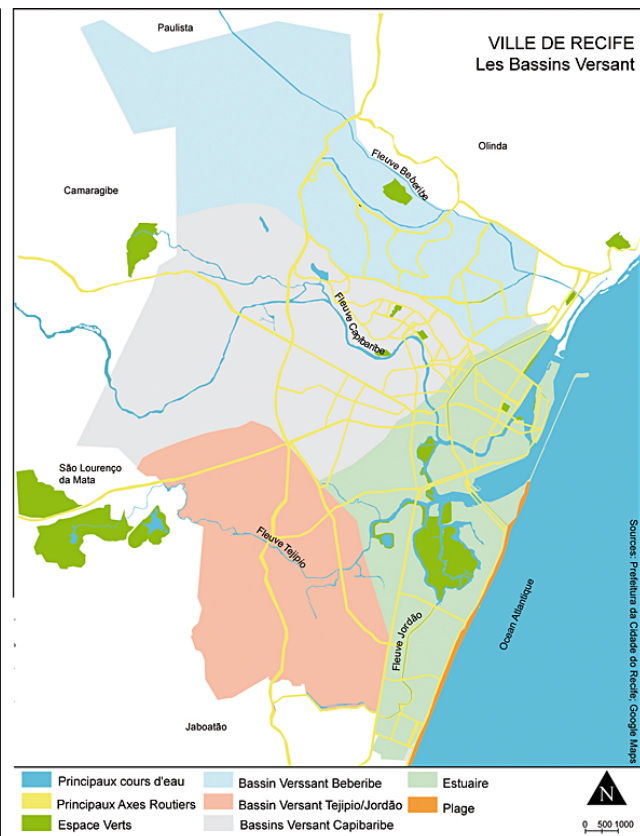


Figure 2: Recife, plan of river basins

The conflict between social dynamics and the environment preservation is a major problem of the great Brazilian cities. This conflict has its origins in the relation between the urban growth and the social inequality. The substandard housing in the cities is a frequent alternative of settlement of the population with low purchase power. The social inequality is consequence of the disparity in the income distribution. Without access to the formal market of the urban property, this part of the population occupies areas of environmental preservation, as fens and river sides. This type of housing generates two different situations. The first one would be the life risk that this part of the population is submitted, due to the fragility of the habitations against high tides and the exposition to illnesses because of a very unsatisfactory sanitary condition. The second deals with environment preservation, that generates the conflict between the individual right to occupy these spaces and the collective interest for preservation and protection of this environment.

The Town Hall estimates that more than 70 thousand people live on the rivers banks and canals in Recife in precarious ways. Out of this total, 50,000 people live in *palafitas*, (JC, 2006). The houses of *palafitas* are spread in 32 areas along the rivers and the estuary. Without access to the service of neither garbage collection nor water supply, the irregular habitations contribute for the water pollution. The families who inhabit the borders of the rivers are at the same time cause of the degradation of the quality of waters and victims. They represent the part of the population that is more exposed to the illnesses of water propagation, as leptospirosis.

Even if the town is surrounded by the water, the access to drinking water is becoming more and more difficult, which proves the deficiency of its supplying system. The Instituto Brasileiro de Geografia e Estatística (IBGE, Brazilian Institute of Geography and Statistics) estimates that 88% of the domiciles are connected to the water supply net, but in the great majority of areas,

water arrives to the taps each two days. Moreover, only 30% are connect to the used water evacuation net. Only 20% of this volume is treated, and the rest of it is rejected in rivers and canals without any treatment. The population perceives the river as an open air sewer that stinks and causes illnesses. Thus the city lives a paradox where the water is a major urban problem for its presence (polluted state) or for its absence (potable state).



Figure 3; 4: Palafitas in the rivers banks of Capibaribe (image of: Renato Spencer)

## METHOD AND MATERIAL

The method of research used understands the survey of the projects destined to the banks river and flooded areas, the study of the urban evolution and the analysis of urban projects dealing with the removal of the palafitas. From this survey, we could compare the official documentation (theoreticians) with the data observed in the local.

The projects that aim to withdrawal the families living in substandard housings in flooded areas in Recife is not properly a new kind of intervention inspired by an holistic vision of the sustainable development. The first projects for the flooded areas in the town date from the beginning of 20th century, motivated for the hygienists ideas. These projects consisted on the destruction of the precarious shacks, fill the flooded zones with earth and in the relocation of families for houses in the periphery.

In 2003, the city hall launches an ambitious project having as objective the eradication of the *palafitas* in ten years, called "*Recife sem palafitas*" Recife without palafitas. Such project of the city hall and the Ministry of the City acts in field of urban renewal of the flooded areas with *palafitas*, with the objective to relocated and build proper houses to this population. The city hall presents the project as being a set of urban, environmental, socio-economic and cultural actions.

The project of the eradications of the palafitas is integrated to other central project office called "*Capibaribe Melhor*" A better Capibaribe River. This project counts on the support of the World Bank. It's a integrated actions of urbanism that aims to promote the environmental requalification of the Capibaribe river basin.

**Table 1: projects**

<b>Project :Capibaribe Melhor</b> Prefeitura da Cidade do Recife, URB, MCconsulting	Theory referential	Projects objects	Actions
	To improve social, economic and environmental conditions of the low-income population groups that live in the Capibaribe River Basin, with a view to ensuring the sustainability of their development and reduce environmental degradation of the canals and of the Capibaribe River itself caused by inappropriate use (sewage and garbage disposal) and human occupation of the river banks	<b><i>Integrated Urbanization:</i></b> a better quality of urban space along the Capibaribe River by creating and recovering the physical infrastructure associated with leisure, sanitation, macro and micro drainage, access and mobility.	<ul style="list-style-type: none"> <li>▪ Parks and green areas</li> <li>▪ Water and sewage macro-system</li> <li>▪ Recovery of macro-drainage system</li> <li>▪ Increased urban accessibility and mobility</li> </ul>
		<b><i>Social and economic development:</i></b> development of participatory and economically entrepreneurial communities, and at the same time to instill in these communities the need to preserve and conserve the natural and built environment in places where they live and, by extension, throughout the city of Recife.	<ul style="list-style-type: none"> <li>▪ Development of health and environmental education</li> <li>▪ Support for employment and income</li> <li>▪ Development of sporting and cultural potential</li> <li>▪ Fostering urban operations</li> <li>▪ Popular participation and social control</li> </ul>
		<b><i>Institutional Development:</i></b> assisting the various departments within the Prefecture of Recife with direct responsibilities in the field of action of this Project to exercise their functions more efficiently and effectively.	<ul style="list-style-type: none"> <li>▪ Municipal environmental management;</li> <li>▪ Management, monitoring and evaluation of the project.</li> </ul>

## RESULTS

Through the confrontation between the project and the actions to eradicate the palafitas, it was possible to get to some results. Talking still about the project "A better Capibaribe" we can distinguish some positive points:

- The attempt to integrate the territory of the river basin with the a area of intervention of the urban planning seems to be an innovative action and a perspective of water resources management integrated in urban areas;
- The withdraw and transposition of the population from the border permit then to access a better conditions of housing;
- The implementation of the project of *integrated sanitation*: integrated actions of water supply, pavement, draining, improvement of sanitary services, intervention, sanitary and environmental education, garbage collection, control of illness and permanent maintenance of the systems.

However, with the relocation of a significant number of families who lived in risk areas, the free spaces have been transformed into ways for automobiles, instead of having its natural

characteristics restored. No further action in the direction of ecological requalification of the ecosystem of the fen has been observed.

On the other hand, we have observed:

- - The increase of the waterproofing by the rivers banks;
- - The lack of elements that could facilitate the identity of the inhabitants with the river.

In the case of the project withdrawing its precarious habitations we have noticed two models of intervention. The first one is the relocation of the population to better places next to the old housings. The second one is about the urbanization of some of these slum areas. In this case, the biggest challenge is to find technical solutions for sanitary supplying, sanitation and garbage collection, adaptable to a flooded area.

The solutions techniques used in the construction of the urban project count on embankments and waterproofing of the ground, without presenting any innovation to reduce the ecological impact. From these observations, we can raise some perspectives for further research. That would be interesting to investigate the vision of the authors of the project on the water system. What reasons determined the choices for these techniques of urban management not very respectful to the environment.

The free space on the fens due to the relocation of these inhabitants could represent an opportunity to construction of a city in which the environment is dealt in a sustainable way. The rivers banks and swamps could be used for prevention of floods, for toxic retention of sediments, substances, for stabilization of the micro-weather, instead of the role as cultural patrimony. (Dunga, 1992, cit. in Coelho 2003) Despite the sensible environmental speech the analyzed projects do not present a regard for the insertion of these potential functions of the urban environment in its projects.

Finally, we can notice that in both projects the main interest seems to be the amplification of the road system of the city. The population of Recife counts on a deficient public transport service, and the use of the individual transport is the cause of continue traffic obstruction. The improvement of the road system is one of the main complaints of the elite. We can conclude that the term of sustainable development in the ecological speech of these projects is used only to legitimize elitist aims and ends out being little eco friendly.

## **CONCLUSIONS**

This paper underlines the vulgarization of the concept of sustainable development in the urban projects. In the case of Recife, we could observe an apparently strong effort of the municipality to construct a sustainable city. However this is not reflected on the usual techniques practices. As points Yves Guermond, the sustainable urbanism "is not what it believes to be (a new response for new problems), but essentially the resumption, the repetition of unconscious discursive configurations born at the previous century» (Guermond, 2006). Thus, it makes us to think that urban planners and managers lack a more holistic understanding of urban environment. At Recife, the sustainable development is used to legitimize projects that does not represent a deep change on classical employed solutions and that are far to have any real ecological consistency.

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